

## ABSTRACT

A method and apparatus for enabling the production of gas containing fullerenes at a high yield. The apparatus includes a plasma generating chamber with a gas inlet where a gas containing atom to be doped is introduced via the gas inlet into the plasma generating chamber to be converted into a plasma there, and an evacuated vessel which is so constructed as to communicate with the plasma generating chamber to produce a plasma flow and to introduce fullerenes into the plasma flow. The apparatus further includes control elements for controlling the energy of electrons in plasma in the evacuated vessel towards the plasma generating chamber, and a potential body for controlling the velocity of ions derived from the gas atom so as to bind the ions to fullerene ions to cause thereby endohedral fullerenes to be formed.